



practitioner's Docket No. 50439-2 (70329)

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TC 1700

PATENT

1741
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Barstad et al.
Application No.: 09/605,442 Group No.: 1741
Filed: June 28, 2000 Examiner: W. Nicolas
For: ELECTROLYTIC COPPER PLATING SOLUTIONS

Mail Stop _____
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

AMENDMENT TRANSMITTAL

- Transmitted herewith is an amendment for this application.

STATUS

- Applicant is
 a small entity.
 other than a small entity.

EXTENSION OF TERM

NOTE: "Extension of Time in Patent Cases (Supplement Amendments) — If a timely and complete response has been filed after a Non-Final Office Action, an extension of time is not required to permit filing and/or entry of an additional amendment after expiration of the shortened statutory period.

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. 1.8(a))

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

- deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450

Date: 6/24/03

FACSIMILE

- transmitted by facsimile to the Patent and Trademark Office.


Signature

Peter F. Corless
(type or print name of person certifying)

06/30/2003 MBIZUNES 0000005 09605442

01 FC:1252

410.00 OP

(Amendment Transmittal—page 1 of 4)

If a timely response has been filed after a Final Office Action, an extension of time is required to permit filing and/or entry of a Notice of Appeal or filing and/or entry of an additional amendment after expiration of the shortened statutory period unless the timely-filed response placed the application in condition for allowance. Of course, if a Notice of Appeal has been filed within the shortened statutory period, the period has ceased to run." Notice of December 10, 1985 (1061 O.G. 34-35).

NOTE: See 37 C.F.R. 1.645 for extensions of time in interference proceedings, and 37 C.F.R. 1.550(c) for extensions of time in reexamination proceedings.

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply.

(complete (a) or (b), as applicable)

- (a) Applicant petitions for an extension of time under 37 C.F.R. 1.136
(fees: 37 C.F.R. 1.17(a)(1)-(4)) for the total number of months checked below:

	Extension (months)	Fee for other than <u>small entity</u>	Fee for <u>small entity</u>
[]	one month	\$110.00	\$55.00
<input checked="" type="checkbox"/>	two months	\$410.00	\$205.00
[]	three months	\$930.00	\$465.00
[]	four months	\$1,450.00	\$725.00
[]	five months	\$1,970.00	\$985.00

Fee: \$ 410.00

If an additional extension of time is required, please consider this a petition therefor.

(check and complete the next item, if applicable)

- [] An extension for _____ months has already been secured. The fee paid therefor of
\$ _____ is deducted from the total fee due for the total months of extension now
requested.

Extension fee due with this request \$ 410.00

OR

- (b) [] Applicant believes that no extension of term is required. However, this conditional
petition is being made to provide for the possibility that applicant has inadvertently
overlooked the need for a petition for extension of time.

FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

(Col.1)	(Col. 2)(Col. 3) SMALL ENTITY			OTHER THAN A SMALL ENTITY			
Claims Remaining After Amendment	Highest No. Previously Paid For	Present Extra	Rate	Addit. Fee	OR	Rate	Addit. Fee
Total * Minus ** =			x \$9 =	\$0		x \$18 =	\$
Indep. * Minus *** =			x \$42 =	\$0		x \$84 =	\$ 0
[] First Presentation of Multiple Dependent Claim				+ \$140 = \$0		+ \$280 =	\$ 0
			Total Addit. Fee	\$	OR	Total Addit. Fee	\$

- * If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3,
- ** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 20, enter "20".
- *** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 3, enter "3".
- The "Highest No. Previously Paid For" (Total or Indep.) is the highest number found in the appropriate box in Col. 1 of a prior amendment or the number of claims originally filed.

WARNING: *"After final rejection or action (§ 1.113) amendments may be made canceling claims or complying with any requirement of form which has been made." 37 C.F.R. 1.116(a) (emphasis added).*

(complete (c) or (d), as applicable)

- (c) No additional fee for claims is required.
OR
(d) Total additional fee for claims required \$ _____.

FEE PAYMENT

5. Attached is a check in the sum of \$ 410.00.
 Charge Account No. _____ the sum of \$ _____.
A duplicate of this transmittal is attached.

FEE DEFICIENCY

NOTE: *If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum, six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in returning the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to charge the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986, (1065 O.G. 31-33).*

6. If any additional extension and/or fee is required, charge Account No. 04-1105.

AND/OR

[X] If any additional fee for claims is required, charge Account No. 04-1105



SIGNATURE OF PRACTITIONER

Reg. No. 33,860

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(type or print name of practitioner)

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21874

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Docket No. 50439-2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Barstad et al.

SERIAL NO.: 09/605,442

EXAMINER: W. Nicholas

FILED: June 28, 2000

GROUP: 1741

FOR: PHOTOACID GENERATORS AND PHOTORESISTS
COMPRISING SAME

THE HONORABLE COMMISSIONER OF PATENTS AND TRADEMARKS
WASHINGTON, DC 20231

SIR:

RESPONSE TO OFFICE ACTION

Applicants are in receipt of the Office Action dated January 24, 2003. Applicants respond to that Office Action as follows.

Claims 124-136 were rejected under 35 U.S.C. 102(e) over Landau et al. (U.S. Patent 6,379,522).

Claims 137-153 were rejected under 35 U.S.C. 103 over Landau et al. (U.S. Patent 6,379,522) and further in view of Dahms et al. (U.S. Patent 5,433,840).

For the sake of brevity, the two rejections are addressed in combination. Such a combined response is considered appropriate because, *inter alia*, both rejections rely on the Landau et al. document as a sole or primary citation.

As an initial matter, Applicants will submit under separate cover a Rule 131 Declaration which will antedate the Landau et al. citation and thereby obviate the rejections.

The instant rejections are not sustainable for additional reasons.

Among other things, the proposed combination of Landau et al. and Dahms et al. is not proper for purposes of a Section 103 rejection.

For instance, the Landau et al. document is specifically directed to a low-acid system and *teaches away* from use of higher acid concentrations. Thus, for example, Landau et al. states the following at column 4, lines 5 (bold emphasis added):

The conventional copper plating electrolyte includes a relatively high sulfuric acid concentration (from about 45 g of H₂SO₄ per l. of H₂O (0.45M) to about 110 g/l. (1.12M) which is provided to the solution to provide high conductivity to the electrolyte. The high conductivity is necessary to reduce the non-uniformity in the deposit thickness caused by the cell configuration and the differently shaped parts encountered in conventional electroplating cells. However, the present invention is directed primarily towards applications where the cell configuration has been specifically designed to provide a relatively uniform deposit thickness distribution on given parts. However, the substrate is resistive and imparts thickness non-uniformity to the deposited layer. Thus, among causes of non-uniform plating, the resistive substrate effect may dominate and a highly conductive electrolyte, containing, e.g., high H₂SO₄ concentrations, is unnecessary. In fact, a **highly conductive electrolyte (e.g., generated by a high sulfuric acid concentration)** is detrimental to uniform plating because the resistive substrate effects are amplified by a highly conductive electrolyte.

* * * *

Also, a lower supporting electrolyte concentration (e.g., sulfuric acid concentration in copper plating) often permits the use of a higher metal ion (e.g., copper sulfate) concentration due to elimination of the common ion effect as explained above. Furthermore, in systems where a soluble copper anode is used, a **lower added acid concentration (or preferably no added acid at all)** minimizes harmful corrosion and material stability problems.

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In clear distinction, the Dahms et al. document reports use of *high acid* concentrations. See Dahms et al. at column 4, lines 5-8 and the examples.

Thus, the skilled worker would have had no incentive to carefully select a component of the high-acid content composition of Dahms et al. and insert that selected component into the low-acid or no-acid composition of the system reported by Landau et al., as has been proposed by the instant rejection. See Section 2143.01 of the Manual of Patent Examining Procedure.

For such reasons, reconsideration and withdrawal of the rejections are requested.

Respectfully submitted,



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